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EXAMINER

CHANKONG, DOHM

ART UNIT	PAPER NUMBER
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2152

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/892,880

Applicant(s)

WATKINS ET AL.

Examiner

Dohm Chankong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 9-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1> This action is in response to Applicant's RCE. Claims 1-7 and 9-15 are presented for further examination.

2> This is a non-final rejection.

### *Response to Arguments*

3> Applicant's arguments with respect to claims 1-7 and 9-15 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4> Claims 1-7 and 9-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1 and 9 are rejected for lacking proper antecedent basis : "the same storage location".

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5> Claims 1-4, 7, 9-13 and 15 are rejected under 35 U.S.C § 103(a) as being unpatentable over 35 U.S.C § 103(a) as being unpatentable over Vahalia et al, U.S Patent No. 6,192,408 ["Vahalia"], in view of Srivastava, U.S Patent No. 6,684,331.

6> As to claim 1, Vahalia discloses a data management system that communicates with a client terminal, the system comprising:

a network address to which the client terminal sends a request reflecting a file transfer function with respect to a particular data file identified by the request [column 1 «lines 59-64» | column 8 «lines 42-45»];

a plurality of file server devices [Figure 7 «items 21, 84, 85, 86»], each performing only file input-output type functions and capable of performing the file transfer function requested by the client terminal [column 2 «lines 19-33»], and wherein each of the plurality of file server devices has access to a common storage device that stores the particular data file to be transferred in accordance with the client request [Figure 7 «item 23» | column 12 «lines 12-15. | column 12 «line 49» to column 13 «line 8»];

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routing the request to the selected server device to perform the requested function, and wherein the selected server device accesses the common storage device to transfer the particular data file identified by the request [column 1 «line 59» to column 2 «line 18»]; and

a data share unit for preventing more than one of the plurality of file server devices from simultaneously accessing the same storage location of the server storage device [column 2 «lines 58-65»].

Vahalia does not explicitly disclose a virtual address or a load balancer.

7> It should be noted that Vahalia discloses load balancing principles but the load balancing is based on transferring ownership responsibility of files from one data mover to another data mover [Figure 21]. The use of a virtual address with a load balancer is well known in art for providing several advantages such as dynamic balancing and a simple implementation for the client [clients only need to know one virtual address to access the file]. Srivastava is directed towards a providing users access to a group of servers. Srivastava discloses:

a virtual address connection and a load balancer, associated with the virtual address connection, for receiving the request and for selecting one of the plurality of server devices to perform the requested function, wherein the load balancer routes the request to the selected server device [column 9 «lines 50-67»].

Thus the combination of Vahalia and Srivastava thus enables a central load balancer, with a virtual IP address (provided by Srivastava) to enable selection of the appropriate data mover, each having access to any file in common storage (Vahalia). Srivastava's virtual IP

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address and load balancer functionality provides users access to the plurality of data movers with the use of a single virtual IP address and further enabling scalability of Vahalia's file server system. Therefore, it would have been obvious to one of ordinary skill in the art to incorporate Srivastava's load balancer and associated virtual address capabilities into Vahalia's network file system for the advantages discussed. Srivastava's load balancer and virtual IP address also furthers Vahalia's goal of providing "uniform distribution" of the clients access to the files such that the clients can access any file through more than one data mover [column 12 «lines 12-15»].

8> As to claim 2, Vahalia discloses the plurality of file server devices operating in parallel [Figure 7 «item 21» | column 12 «lines »].

9> As to claims 3 and 4, Vahalia does not disclose a virtual address connection or that the load balancer determines the one of the plurality of file server devices that will perform the server function.

10> As previously discussed in claim 1, Srivastava discloses a virtual address connection and also that the plurality of client terminals send their respective requests to the virtual address connection, and wherein the load balancer determines the one of the plurality of file server devices that will perform the server function requested by each of the plurality of client terminals [column 9 «lines 50-67»]. The use of virtual address is known for representing the plurality of data movers as a single entity for easier access by the user.

Therefore, it would have been obvious to one of ordinary skill in the art to combine Srivastava's virtual address connection with Vahalia for the stated advantages.

11> As to claim 7, Vahalia and Srivastava discloses a load balancer determining the file server device that will perform the function based on a current processing load of each server device [column 11 «lines 13-21»].

12> As to claims 9-13 and 15, as they do not teach or further define over the previously claimed limitations, they are rejected for at least the same reasons set forth for claims 1-4 and 7.

13> Claims 5, 6, 13 and 14 are rejected under 35 U.S.C § 103(a) as being unpatentable over Vahalia and Srivastava, in further view of Bhaskaran et al, U.S Patent No. 6,601,084 [“Bhaskaran”].

14> As to claims 5 and 13, Vahalia and Srivastava disclose load balancing but do not explicitly disclose that the load balancer randomly determines the file server device that will perform the server function.

15> Bhaskaran discloses that load balancing based on random determination is well known and common in the art [column 2 «lines 30-34»]. As such, the application of random determination in Vahalia and Srivastava's load balancer basically amounts to a design choice

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and does not provide an inventive step over what is known and ubiquitous in the art.

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate random determination for Vahalia and Srivastava's load balancer to increase the functionality of the balancer in a way that is well known and expected in the art.

16> As to claims 6 and 14, Vahalia and Srivastava do not disclose load balancing according to a predetermined rotational order.

17> Similar to the random determination load balancing, the use rotational or sequential selection principles in a load balancer is well known in the art and there application in a load balancer is a design choice and not an inventive or patentable step. Bhaskaran discloses utilizing sequential selection as a load balancing technique [column 2 «lines 30-34»]. It would have been obvious to one of ordinary skill in the art to incorporate sequential selection in Vahalia and Srivastava's network file system to increase the functionality of their load balancer in a way that is common and well known in the art.

### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3942. The examiner can normally be reached on 8:30AM - 5:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC



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Primary Examiner

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